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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/263,358	03/05/1999	DENNIS D. FERGUSON	TAN98-24	1714

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HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133

EXAMINER

SMITH, SHEILA B

ART UNIT	PAPER NUMBER
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2681

15

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/263,358

Applicant(s)

FERGUSON ET AL.

Examiner

Sheila B. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see paper 14, filed 1/23/03, with respect to the Double Patenting rejection(s) of claim(s) 1-12 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of Double Patenting rejection is made.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6236647 to Amalfitano, (herein referred to as Amalfitano) in view of Taipale (U.S. Patent Number 6,310,856).

Amalfitano claims method for communication of data being provided in a frame.

Regarding **claims 1 ,4, 5 and 10**, Amalfitano provides dividing the frame into subframes according to an optimum subframe size and combining multiple segments into a segment block, which reads on “dividing the frame into segments according to an optimum segment size” determining if any segment was received in error “which reads on optimum number of frames according to a ratio of a number of subframes received in error to a number of subframes received correctly” and determining if any segment was received in error as specified in claim 1. Amalfitano also provides sending the forward error correction block over a communication channel as specified in claim 3. Amalfitano also discloses dividing a frame and requesting retransmission only of the segment received in error an unable to be corrected as specified in claim 7. However, U.S. Patent Number 6236647 fails to specifically disclose correcting the error according to the forward error correction encoding if possible.

In the same filed of endeavor of correcting errors in a CDMA system, Taipale discloses a CDMA communications system having a searcher receiver and method therefore. Additionally Taipale discloses correcting the error according to the forward error correction encoding as disclosed in column 4 lines 48-50.

Therefore it would have been obvius to one skilled in the art at the time the invention was made to modify the invention with correcting the error according to the forward error correction encoding for the purpose of assuring the mobile acquires the best spreading code sequence.

Regarding claims 2 and 3, Amalfitano teaches everything as claimed in claim 1. Additionally, Amalfitano teaches subframes consists of a position identifier, a data portion and a trailer typically in the form of an integrity checksum as disclosed in column 6 lines 52-55,

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which reads on “inserting a checksum into the segments to enable identification of erroneously received segments at the receiver” and also reads on “a position number into the segments to identify a position of the segment within the frame”.

Regarding claim 6, Amalfitano teaches everything as claimed in claim 1. Additionally, Amalfitano teaches determining an error rate in each channel and an optimum number of segments for each channel individually as disclosed in claim 3.

Regarding claim 7, Amalfitano teaches everything as claimed in claim 1. Additionally, Amalfitano teaches determines the number of segments received in error at the receiver by counting the number of selective reject orders made to the transmitter as disclosed in claim 12.

Regarding claim 8, Amalfitano teaches everything as claimed in claim 1. Additionally, Amalfitano teaches determines an optimum number of frames according to a ratio of a number of segments received in error to a number of segments received correctly as disclosed in claim 13.

Regarding claim 9, Amalfitano teaches everything as claimed in claim 1. Additionally, Amalfitano teaches the step of determining an adjusted number of data bytes in a frame, X, from the formula:

$$X = -H + \sqrt{(X_{\text{current}} + H_{\text{current}}) * H / R}$$

where X_{current} is the present number of data bytes in a frame, H_{current} is the present frame overhead in bytes, H is the new overhead for the frame in bytes, and R is a ratio of segments received in error to segments received correctly as disclosed in claim 5.

Regarding claim 11, Amalfitano teaches everything as claimed in claim 10. Additionally, Amalfitano teaches determining an optimum segment size for the sub-channels

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based upon a determined number of segments received in error which were attempted to be communicated over the sub-channels as disclosed in claim 12.

Regarding claim 12, Amalfitano teaches everything as claimed in claim 10.

Additionally, Amalfitano teaches dynamically adjusting the frame size of a channel to optimize the effective throughput of the overall system based upon the ratio of actual data transferred to the number of bits actually used to carry information, including frame overhead and retransmissions as disclosed in claim 18.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over to Amalfitano (U.S. Patent No. 6,236,647), (herein referred to as Amalfitano) in view of Taipale (U.S. Patent Number 6,310,856).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter

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disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(1)(1) and 706.02(1)(2).

Amalfitano discloses a method for communication of data being provided in a frame.

Regarding claims 1, 4, 5 and 10, Amalfitano provides dividing the frame into subframes according to an optimum subframe size and combining multiple segments into a segment block, which reads on “dividing the frame into segments according to an optimum segment size” determining if any segment was received in error “which reads on optimum number of frames according to a ratio of a number of subframes received in error to a number of subframes received correctly” and determining if any segment was received in error as specified in claim 1. Amalfitano also provides sending the forward error correction block over a communication channel as specified in claim 3. Amalfitano also discloses dividing a frame and requesting retransmission only of the segment received in error an unable to be corrected as specified in column 2 lines 44-46. However, Amalfitano fails to specifically disclose correcting the error according to the forward error correction encoding if possible.

In the same filed of endeavor of correcting errors in a CDMA system, Taipale discloses a CDMA communications system having a searcher receiver and method therefore. Additionally Taipale discloses correcting the error according to the forward error correction encoding as disclosed in column 4 lines 48-50.

Therefore it would have been obvious to one skilled in the art at the time the invention was made to modify the invention with correcting the error according to the forward error correction encoding for the purpose of assuring the mobile acquires the best spreading code sequence.

Regarding claims 2 and 3, Amalfitano teaches everything as claimed in claim 1. Additionally, Amalfitano discloses subframes consists of a position identifier, a data portion and a trailer typically in the form of an integrity checksum as disclosed in column 6 lines 52-55,

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which reads on “inserting a checksum into the segments to enable identification of erroneously received segments at the receiver” and also reads on “a position number into the segments to identify a position of the segment within the frame”.

Regarding claim 6, Amalfitano teaches everything as claimed in claim 1. Additionally, Amalfitano discloses determining an error rate in each channel and an optimum number of segments for each channel individually as disclosed in column 6 lines 39-45.

Regarding claim 7, Amalfitano teaches everything as claimed in claim 1. Additionally, Amalfitano discloses determines the number of segments received in error at the receiver by counting the number of selective reject orders made to the transmitter as disclosed in claim 12.

Regarding claim 8, Amalfitano teaches everything as claimed in claim 1. Additionally, Amalfitano discloses determines an optimum number of frames according to a ratio of a number of segments received in error to a number of segments received correctly as column 7 lines 23-29.

Regarding claim 9, Amalfitano teaches everything as claimed in claim 1. Additionally, Amalfitano discloses the step of determining an adjusted number of data bytes in a frame, X, from the formula:

$$X = -H + \sqrt{(X_{\text{current}} + H_{\text{current}}) * H / R}$$

where X_{current} is the present number of data bytes in a frame, H_{current} is the present frame overhead in bytes, H is the new overhead for the frame in bytes, and R is a ratio of segments received in error to segments received correctly as disclosed in column 10 line 45.

Regarding claim 11, Amalfitano teaches everything as claimed in claim 10. Additionally, Amalfitano discloses determining an optimum segment size for the sub-channels

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based upon a determined number of segments received in error which were attempted to be communicated over the sub-channels as disclosed in column 6 lines 39-52.

Regarding claim 12, Amalfitano teaches everything as claimed in claim 10.

Additionally, Amalfitano discloses dynamically adjusting the frame size of a channel to optimize the effective throughput of the overall system based upon the ratio of actual data transferred to the number of bits actually used to carry information, including frame overhead and retransmissions as disclosed in column 6 lines 39-52.

Response to Arguments

2. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheila B. Smith whose telephone number is (703)305-0104. The examiner can normally be reached on Monday-Thursday 6:00 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 703-305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-9700.

S. Smith
May 17, 2003


DWAYNE BOST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
5-19-03